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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/811,358	03/16/2001	Gregory L. Merrill	IMD004A	7776

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EXAMINER

MULCAHY, JOHN M

ART UNIT	PAPER NUMBER
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3739

DATE MAILED: 05/21/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/811,358

Applicant(s)

GREGORY L. MERRIL ET AL.

Examiner

John M. Mulcahy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 and 31-38 is/are pending in the application.
- 4a) Of the above claim(s) 31-37 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-18, 21-25 and 38 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 19 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Election/Restrictions

1. Applicant's election without traverse of Group I (claims 1-25 and 38) in Paper No. 11 is acknowledged. Claims 31-37 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 11.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 7, 8, 9-12, 14, 15, 20, 22-25 and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Barnes et al. (6,038,488) which shows an apparatus, comprising:

As to claim 1: an elongated member 21a having a distal portion configured to engage tissue in a body (col. 9, lines 16-20) and having a manipulable proximal portion (id.), said elongated member configured to be moved in a degree of freedom; a sensor 22 configured to detect a position of the elongated member and output a force signal based on the position signal; and an actuator 24 configured to apply a force to the elongated member, the force being applied to the elongated member as a haptic feedback based on the force signal.

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As to claim 2: the degree of freedom is a translational degree of freedom (col. 5, line 55-56).

As to claim 3: the degree of freedom is a rotational degree of freedom (col. 5, line 56-57).

As to claim 4: the haptic feedback includes at least one of a detent force, a vibration, a barrier force, a damping force, and a spring force (col. 6, line 35 et seq.).

As to claim 7: the elongated member includes a guidewire (col. 9, line 18) and a catheter (col. 9, line 19).

As to claims 8 and 23: the distal portion of the elongated member includes an irrigator (station 4).

As to claim 38: said sensor is further configured to detect a movement of the elongated member in the degree of freedom and output a movement signal based on the movement, the force being applied as a haptic feedback based on the movement signal (col. 11, line 45, through col. 12, line 8).

As to claim 9: a sensor 78 configured to detect a first force applied to the elongated member in the degree of freedom and to output a sensor signal based on the first force (col. 11, line 45, through col. 12, line 8).

As to claim 10: the degree of freedom is translational (col. 7, line 40, through col. 8, line 2).

As to claim 11: the degree of freedom is rotational (col. 7, line 40, through col. 8, line 2).

As to claim 25: the second force is a rotational force (col. 7, lines 7-15).

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As to claim 12: the controller is programmable (col. 6, lines 58-61).

As to claim 15: an outer member having an orifice into which the elongated member is insertable, the actuator being disposed within the orifice (Fig. 2f).

As to claim 20: the actuator is configured to apply the second force to counteract the first force applied to the elongated member by the user (col. 6, line 35 et seq.).

As to claim 22: a position detector 22 coupled to the elongated member, the position detector configured to detect a relative insertion position of the elongated member.

As to claim 24: the sensor being a first sensor, the actuator being a first actuator, the apparatus further comprising: a second sensor configured to detect a rotational force being applied to the elongated member; and a second actuator configured to apply a rotational force to the elongated member (col. 7, lines 7-67).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

a. Claims 1-4, 7-18, 20-25 and 38 are rejected under 35 U.S.C. 103(a) as being obvious over Alexander et al. (WO 99/39317) in view of Marcus, "Touch Feedback in Surgery," *Proceedings of Virtual Reality and Medicine, The Cutting Edge*, September 8-11, 1994, pp. 96-97.

The Alexander et al. reference has inventors in common with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Alexander et al. clearly teaches the invention substantially as set forth in claims 1-4, 7-18, 20-25 and 38, but fails to teach the elongated member having a distal portion configured to engage tissue in a body. Rather, the distal ends of the elongated members are simulated. However, Marcus teaches to use actual instruments in such a simulator (p. 97, left column, lines 13-15 and 34-36). It would have been obvious to the artisan to modify Alexander et al. by using elongated members having distal portion

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configured to engage tissue in a body (i.e., actual instruments), since Marcus teaches that such an arrangement is ideal.

b. Claims are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnes et al. (6,038,488).

Barnes et al. teaches the apparatus substantially as claimed, including (as to claim 14): the second force is applied in a direction opposite an insertion direction of the elongated member (col. 7, lines 7-15). However, Barnes et al. fail to specify that a magnitude of the second force is from about 10 percent to about 90 percent of the first force detected by the sensor (claim 13). However, inasmuch as Barnes et al. teach that the feedback force should accurately simulate the feel of an actual procedure, it would have been obvious to the artisan to choose feedback forces within the claimed range if routine experimentation revealed that such would accurately simulate the feel of an actual procedure.

Allowable Subject Matter

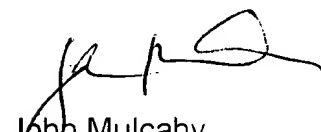
2. Claims 5, 6, 19 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John M. Mulcahy whose telephone number is (703) 308-3134. The examiner can normally be reached on M-F, 7:30-4:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda C. M. Dvorak can be reached on (703) 308-0994. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0873.



John Mulcahy
May 2, 2003

John M. Mulcahy
Primary Examiner
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